UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 January 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>43 - 55 and 58</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>43 - 55 and 58</u> is/are rejected.

7)☒ Claim(s) <u>58</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January

10, 2008 has been entered.

2.   Claims 43 – 55 and 58 are pending in this Office Action.

3.   Claims 1 – 42 and 56 – 57 are canceled.

Response to Arguments

4.   Applicant argues:

Takaya does not teach or suggest a replication client that is different from

the master client for storing such a second replica (page 5, paragraph 5).

Examiner respectfully disagrees with the applicant. *(Please see Terry at al. Fig. 1*

and page 3 paragraph 1: Terry discloses "Alice might keep a replica of her calendar on her

office machine, one on her laptop, and also one on the office machine of her administrative

assistant, Bob, so that her assistant has quick access to her calendar"; Examiner interprets

"her laptop" as master client computing device; "her office machine" as the server on which

the first replica is stored and "office machine of her administrative assistant" as the

replicating computing device that stores and displays the second replica; office machine of her

administrative assistant is different from her laptop).

Claim Objections

5.   Claim 58 is objected to because of the following informalities: Claim 48 depends

from a canceled claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 43 – 55 and 58 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Non-Patent Literature "The Case for Non-transparent Replication:

Examples from Bayou" by Douglas B. Terry et al. (hereinafter "Terry") in view of US

patent No. 5,630,116 issued to Takaya et al., (hereinafter "Takaya").

Regarding claim 43, Terry discloses a method for client mastered replication

comprising:

receiving by replicating client computing device from a connected server a copy

of a first replica of a master file, the first replica being stored at the server, the master

file being stored at a master client computing device *(see Terry Fig. 1 and page 3*

paragraph 1: "Alice and Bob's office machines perform reconciliation with each other on a

frequent basis so that any updates made to the calendar by either of them are seen by the other

with little delay"; Examiner interprets "her laptop" as master client computing device; "her

office machine" as the server on which the first replica is stored and "Bob's office machine"

as the replicating computing device that receives a copy of a first replica);

storing the copy of the first replica at a replicating client computing device as a

second replica *(see Terry Fig. 1 and page 3 paragraph 1: "Alice occasionally connects to her*

(or Bob's) office machine via a dial-up modem to exchange recently added meetings, thereby

updating their replicas of the shared calendar"; Bob's office machine is the replicating

computing device and the updated copy of the first replica stored of Alice machine (server) is

also stored on this Bob's machine); and

displaying the second replica to a user at the replicating client computing

device *(see Terry Fig. 1 and page 3 paragraph 1: "Alice and Bob's office machines perform*

reconciliation with each other on a frequent basis so that any updates made to the calendar by

either of them are seen by the other with little delay"; Examiner interprets "Ali's office

machine" as the server on which the first replica is stored and "Bob's office machine" as the

replicating computing device that allows the second replica/copy of the first replica to be seen).

Terry does not explicitly disclose Master file as claimed.

However, Takaya discloses **Master file** *(see Fig. 1 step 7, Fig. 2 and column 4, lines*

6 – 8 and lines 42 – 44: Examiner interprets "parent work station" as the master client

computing device that stores the "master file", "Child work station" as the server that stores

the first replica and "grandchild work station" as replicating client device that receives the a

copy of the first replica).

It would have been obvious to one of ordinary skills in the data processing art at

the time of the present invention to combine the cited references because Takaya's

teaching of "master file" would have allowed Terry to provide a client mastered

replication system. The motivation is that this system is capable of always maintaining

identical the contents of master files the parent workstation is provided with, and those

slave files the child workstations are provided with and enabling the user of any child

workstation to use it without being conscious of the updating history of slave files as

suggested by Takaya at column 1, lines 35 - 41.

Regarding claim 44, Terry discloses the method of claim 43, further comprising:

making a change to the second replica *(see Terry Fig. 1 and page 3 paragraph 1: "Alice*

occasionally connects to her (or Bob's) office machine via a dial-up modem to exchange

recently added meetings, thereby updating their replicas of the shared calendar"; Examiner

interprets Bob's office machine as the replicating client device that stores the second replica

being updated).

Regarding claim 45, Terry discloses the method of claim 44, further comprising:

sending the change from the replication client computing device to the connected

server *(see page 3 paragraph 1: "Alice and Bob's office machines perform reconciliation*

with each other on a frequent basis so that any updates made to the calendar by either of them

are seen by the other with little delay"; Examiner interprets "Alice's office machine" as the

server on which the first replica is stored and "Bob's office machine" as the replicating

computing device that receives a copy of a first replica; any updates by either of them are seen

by the other with little delay).

Regarding claim 46, Terry discloses the method of claim 45, further comprising:

replicating by the connected server the change from the second replica to the

first replica *(see page 3 paragraph 1: "Alice and Bob's office machines perform*

reconciliation with each other on a frequent basis so that any updates made to the calendar by

either of them are seen by the other with little delay"; Examiner interprets "Alice's office

machine" as the server on which the first replica is stored and "Bob's office machine" as the

replicating computing device that stores a copy of a first replica/second replica; any changes

by either of them are seen by the other with little delay).

Regarding claim 47, Takaya discloses the method of claim 46, further

comprising:

sending the change from the connected server to the master client computing

device *(see column 2, lines 51 – 53: As shown in claim 1, "parent work station" is the master*

client computing device that stores the "master file", "Child work station" is the server that

stores the first replica; changes to the first replica are forwarded from the child

workstation/server to the parent workstation/client computing device).

Regarding claim 48, Takaya discloses the method of claim 47, further

comprising:

receiving by the master client computing device from the connected server a

copy of the change *(see column 1, lines 63 – 65: the parent workstation/master client*

computing device updates the master file with a change received from the child

workstation/server); and

determining whether to replicate the change from the first replica to the master

file *(see Fig. 3C steps 42, 43 and column 4, lines 56 – 57: "judging whether or not a master*

file corresponds to slave file/replica" is interpreted as determining whether to replicate the

change from first replica to master file).

Regarding claim 49, Terry discloses the method of claim 48, comprising

determining whether to replicate the change from the first replica to the master file *(see*

page 4, section 3.1, paragraph 2: "a user who works from home in the evening, may wish his

office workstation to reconcile with his home machine at 5:00pm each evening"; Examiner

interprets "home machine/laptop" as master client computing device that stores master file

and "office workstation/office machine" as the server that stores first replica. The conflict at

the home machine is resolved at 5:00 pm each evening) in accordance with a conflict

resolution scheme *(see page 6 section 3.4: "conflict involving two meetings is resolved by*

trying to reschedule one of the meetings).

Regarding claim 50, Terry discloses the method of claim 49, comprising replicating the change from first the replica to the master file *(see page 3, paragraph 1: "Alice occasionally connects to her (or Bob's) office machine via a dial-up modem to exchange recently added meetings, thereby updating their replicas of the shared calendar"; Examiner interprets "her laptop" as master client computing device that stores master file and "her office machine" as the server on which the first replica is)* only if the change does not conflict with the master file *(see page 6 section 3.4: "conflict involving two meetings is resolved by trying to reschedule one of the meetings).*

Regarding claim 51, Terry discloses a system for client mastered replication, the system comprising:

a master client computing device that stores a master file *(see Fig. 1 and page 3 paragraph 1: "Alice might keep a replica of her calendar on her office machine, one on her laptop, and also one on the office machine of her administrative assistant, Bob, so that her assistant has quick access to her calendar"; Examiner interprets "her laptop" as the master client computing device that stores master file)* and displays the master file to a user *(see Fig. 1: As shown in Fig. 1, the laptop displays the replica to the user)*;

a connected server that stores a first replica of the master file *(see Fig. 1 and page 3 paragraph 1: "Alice might keep a replica of her calendar on her office machine, one on her laptop, and also one on the office machine of her administrative assistant, Bob, so that her assistant has quick access to her calendar"; Examiner interprets "her office machine" as the connected server that stores the first replica of the master file)*,

a replicating client computing device that is different from the master client

computing device and that stores a second replica of the master file *(see Fig. 1 and page*

3 paragraph 1: "Alice might keep a replica of her calendar on her office machine, one on her

laptop, and also one on the office machine of her administrative assistant, Bob, so that her

assistant has quick access to her calendar"; Examiner interprets "Bob's office machine" as

the replicating client computing device that stores a second replica of master file and different

from master client computing device), the second replica being copied from the first

replica *(see page 3 paragraph 1: "Alice and Bob's office machines perform reconciliation*

with each other on a frequent basis so that any updates made to the calendar by either of them

are seen by the other with little delay").

Terry does not explicitly disclose Master file as claimed.

However, Takaya discloses **Master file** *(see Fig. 1 step 7, Fig. 2 and column 4, lines*

6 – 8 and lines 42 – 44: Examiner interprets "parent work station" as the master client

computing device that stores the "master file", "Child work station" as the server that stores

the first replica and "grandchild work station" as replicating client device that receives the a

copy of the first replica).

wherein the master client computing device receives changes made to the first

replica *(see column 1, lines 63 – 65: the parent workstation/client computing device updates*

the master file with a change received from the child workstation/server) and determines

whether to replicate the changes from the first replica to the master file *(see column 4,*

lines 56 – 57: "judging whether or not a master file corresponds to slave file/replica .... with

the data" is interpreted as "determining whether to replicate the change").

It would have been obvious to one of ordinary skills in the data processing art at the time of the present invention to combine the cited references because Takaya's teaching of "master file" would have allowed Terry to provide a client mastered replication system. The motivation is that this system is capable of always maintaining identical the contents of master files the parent workstation is provided with, and those slave files the child workstations are provided with and enabling the user of any child workstation to use it without being conscious of the updating history of slave files as suggested by Takaya at column 1, lines 35 - 41.

Regarding claim 52, Terry discloses the system of claim 51, wherein the master client computing device determines whether to replicate the changes from the first replica to the master file *(see page 4, section 3.1, paragraph 2: "a user who works from home in the evening, may wish his office workstation to reconcile with his home machine at 5:00pm each evening"; Examiner interprets "home machine/laptop" as master client computing device that stores master file and "office workstation/office machine" as the server that stores first replica. The conflict at the home machine is resolved at 5:00 pm each evening)* in accordance with a conflict resolution scheme *(see page 6 section 3.4: "conflict involving two meetings is resolved by trying to reschedule one of the meetings).*

Regarding claim 53, Takaya discloses the system of claim 52, wherein the master client computing device replicates the changes from the first replica to the master file only of the changes do not conflict with the master file *(see column 1, lines 63 – 65: the parent workstation/master client computing device updates the master file with a change received from the child workstation/server that stores the first replica)*.

Regarding claim 54, Takaya discloses the system of claim 51, wherein the master client computing device determines whether to replicate the changes from the first replica to the master file based on an event occurring at the client computing device *(see Fig. 3C steps 42, 43 and column 4, lines 56 – 57: "judging whether or not a master file corresponds to slave file/replica" is interpreted as determining whether to replicate the change from first replica to master file)*

Regarding claim 55, Terry discloses the system of claim 54, wherein the event is an expiration of a selected time interval, closing the master file at the client device, saving the master file at the client device, or shutting down the client device *((see page 4, section 3.1, paragraph 2: "a user who works from home in the evening, may wish his office workstation to reconcile with his home machine at 5:00pm each evening"; It is obvious to one of ordinary skills in the art that 5:00 pm is the time when most system are shut down and files are close at the end of work day)*.

Regarding claim 58, Takaya discloses the system of claim 56, wherein the server receives changes made to the second replica and determines whether to replicate the changes from the second replica to the first *(see page 3 paragraph 1: "Alice and Bob's office machines perform reconciliation with each other on a frequent basis so that any updates made to the calendar by either of them are seen by the other with little delay"; Examiner interprets "Alice's office machine" as the server on which the first replica is stored and "Bob's office machine" as the replicating computing device that stores a copy of a first replica/second replica; any changes by either of them are seen by the other with little delay).*

Prior Art of Record

8.   The Prior Arts made of record but not relied upon are pertinent to the prosecution of this application:

   a.   **USPN 5,588,147 -** Neeman et al.

   b.   **USPN 5,452,448 –** Sakuaba et al.

   c.   **Software-Based Replication for Fault Tolerance –** Guerraoui et al.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED I. EHICHIOYA whose telephone number is (571)272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred I. Ehichioya/
Examiner, Art Unit 2162